Enterprise Technology Services

State of Alaska – Enterprise Technology Services (ETS)
Flexpod Architectural Overview
2012 v6

Wide Area Network **(WAN)** Core – Catalyst 6500 Switches

Secure - Public Facing **(DMZ)** Core – Catalyst 6500 Switch.

State of Alaska Network Services Section (NSS) – WAN & DMZ Network Cores

WAN   **DMZ**

Service Demarcation between WAN/ DMZ & Data Center Core (Physical, Logical, Administrative)

Each redundant **DMZ – Data Center** Nexus 7000 has 10 gb uplinks two line cards on the 6500 **DMZ** Core Switch. Aggregate bandwidth 40gb / 20gb during a 50% failure.

Dedicated, QoS compatible Customer VLANs. Layer 3 Defined on DMZ Core 6500 Firewall Services Module and delivered via Layer 2 through the data center infrastructure to Flexpod hosted services or Customer cabinets.

Each redundant **Internal Data Center (IDC)** Nexus 7000 has 10 gb uplinks to both 6500 **WAN** Core Switches. Aggregate bandwidth 40gb / 20gb during a 50% failure.

Dedicated, QoS compatible Customer VLANs. Layer 3 Defined on N7Ks and available to the Customer at the Vmware layer.

State of Alaska Infrastructure Services Data Center Network Core(s)

IDC   **DMZ**

Legend

Fabric A

Fabric B

Data Center Service Provider / Customer Demarcation.

ETS Flexpod Services

Customer Responsibility

Clustered Nexus 5500/ 5000 Series Switches provide the Data Center Aggregation Layer offering redundant 10gb connectivity (20gb aggregate bandwidth) for customers to both the **IDC** and **DMZ**.

IDC Data Center Network Aggregation

DMZ Data Center Network Aggregation

Data Center Customer Colocation Area

-- Data Center Facilities Management

-- Maximum Separation

-- Auditable Access Controls

-- 24/365 Operational Monitoring & Alerting

-- 10gb or 1gb uplink Network Access to WAN/DMZ Resources

Data Center Colocation Services

4 Redundant 10gb uplinks per Chassis per each 6140 FIC.

--Total of 8 uplinks delivering 80gb throughput to full-width blades / 40gb throughput per half-width blades.

Cisco UCS 6140XP Fabric Interconnects (FIC) High-Availability Cluster

--1.04 Tbps of throughput per FIC.

Customer is delegated management of assets.

Administrative Delegations include but not limited to...

-- Remote Console Access

-- OS Installation & Management

-- Power Control (on/off/reboot).

-- Performance Reporting

-- Access to Monitoring & Alerting.

APP OS

VMware ESX and ESXi

UCS Blade Services allow for dynamic provisioning of secure physical or virtual infrastructure.

Shared or Dedicated Physical Host(s) & Vmware Cluster(s) for Customers.

Dedicated compute, memory and network resources allocated to the Customer

Customer Managed Physical / Virtual Servers (Application Tier – OS Managed Optional)

Disaster Recovery is handled by the common storage layer and mirrored between data centers for **True Data Center Failover.**
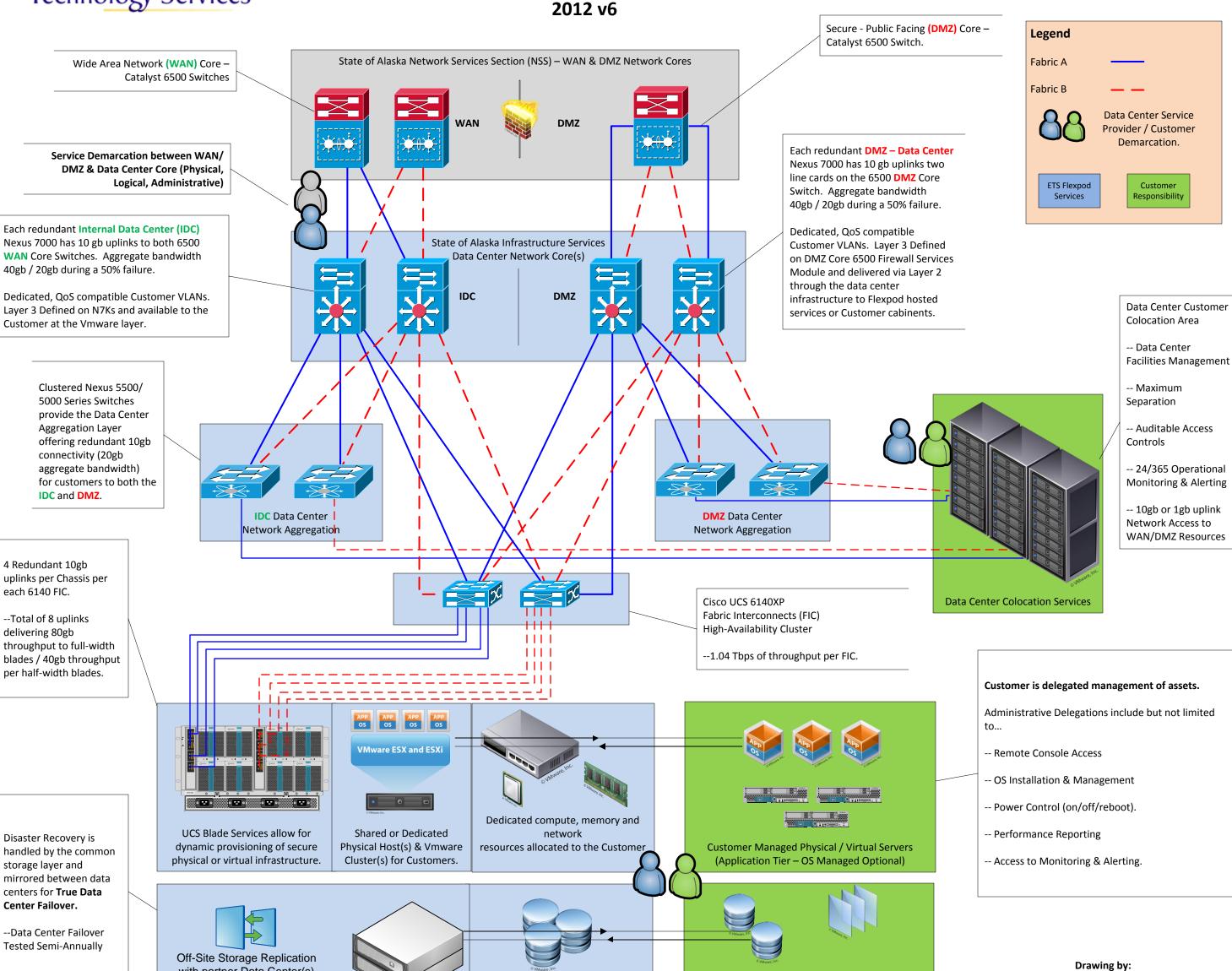
--Data Center Failover Tested Semi-Annually

Off-Site Storage Replication with partner Data Center(s)

NetApp High-Availability Storage Cluster Protocol Agnostic Delivery - (FC, FCoE, ISCSI, NFS, & CIFS)

Secure, Shared or Dedicated storage resources allocated to the Customer.

Customer Dedicated Virtual or Physical Data Store(s). (Support for Deduplication, Snapshot, Clone, & Replication Capabilities at the Storage Layer)

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